

HIGH Q FACTOR INTEGRATED CIRCUIT INDUCTOR

ABSTRACT

An inductor and a method of forming and the inductor, the method including: (a) providing a semiconductor substrate; (b) forming a dielectric layer on a top surface of the substrate; (c) forming a lower trench in the dielectric layer; (d) forming a resist layer on a top surface of the dielectric layer; (e) forming an upper trench in the resist layer, the upper trench aligned to the lower trench, a bottom of the upper trench open to the lower trench; and (f) completely filling the lower trench at least partially filling the upper trench with a conductor in order to form the inductor. The inductor including a top surface, a bottom surface and sidewalls, a lower portion of said inductor extending a fixed distance into a dielectric layer formed on a semiconductor substrate and an upper portion extending above said dielectric layer; and means to electrically contact said inductor.